

IN THE SPECIFICATION

Amend paragraph 51 as follows:

[0051] Figs. 12 - 17, including Figs. 14.1 - 14.2, are cross-sectional side views of eight ~~six~~ silicon-gate implementations of the n-channel varactor of Figs. 8a - 8d.

Cancel the revisions made to paragraph 194 via the Amendment submitted 11 June 2004 and, in place of those revisions, amend paragraph 194 as follows:

[0194] Rather than being of opposite conductivity types, gate electrode portions 112LA and 112LB can be of the same conductivity type, either p-type or n-type, but at different values of gate electrode dopant concentration N_{POLY} in a variation of the varactor of Fig. 14. If electrode portions 112LA and 112LB are both n-type and thus of opposite conductivity type to body region 100, electrode portion 112LA is doped more heavily ~~lightly~~ n-type than is electrode portion 112LB. Such a variation of the varactor of Fig. 14 is depicted in Fig. 14.1 where net polysilicon dopant concentration N_{POLYA} of n++ electrode portion 112LA exceeds net polysilicon dopant concentration N_{POLYB} of n++ electrode portion 112LB. In accordance with Eq. 33, gate portion 131B meets the requirement of having a higher value of zero-point gate-to-body threshold voltage V_{T0} than gate portion 131A.

The reverse dopant-concentration relationship arises if electrode portions 112LA and 112LB are both p-type and thus of the same conductivity type as body region 100. Per Eq. 33, electrode portion 112LA is doped more lightly ~~heavily~~ p-type than is electrode portion 112LB. Fig. 14.2 illustrates such a further variation of the varactor of Fig. 14 for which polysilicon dopant concentration N_{POLYA} of p++ electrode portion 112LA is less than polysilicon dopant concentration N_{POLYB} of p++ electrode portion 112LB. Since p-n junction 190 is absent in the variations of Figs. 14.1 and 14.2, ~~this variation~~, upper metallic gate electrode layer 112U can be deleted in such variations.

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